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human CAP-1

60
MLSHNTMKQRKQQAATAIMKEVHGNDVDGMDLGKKVSIIPRDIMLEELSHLSNRGARLFKM
120
RQRRSDKYTFENFQYQSRAQINHSIAMQNGKVDGSNLEGGSQQAPLTPPNTPDPRSPPNP
180
DNIAPGYSGPLKEIPPPEKFNTTAVPKYYQSPWEQAISNDPELLEALYPKLFKPEGKAELP
240
DYRSFNRVATPFGGFEEKASRMVKFKVPDFELLILLTDPREFMSFVNPLSGRRSFNRTPKGWI
SENIPVITTEPTDDTTVPESDDL

FIG. 1A

mouse CAP-1

60
MLSHSAMVKQRKQQAASAITKEIHGHDVDGMDLGKKVSIIPRDIMIEELSHFSNRGARLFKM
120
RQRRSDKYTFENFQYESRAQINHNHNIAMQNGRVDGSNLEGGSQQGPSTPPNTPDPRSPPNP
180
ENIAPGYSGPLKEIPPPEKFNTTAVPKYYRSPWEQAIGSDPELLEALYPKLFKPEGKAELR
240
DYRSFNRVATPFGGFEEKASKMVKFKVPDFELLILLTDPREFLAFANPLSGRRRCFNRAFKGWV
SENIPVVITTEPTEDATVPESDDL

FIG. 1B

human CAP-2

60
MPLSGTPAPNKKRKSSKLIIMELTGGGQESSGLNLGKKISVPRDVMLEELSLLTNRGSKMF
120
KLRQMRVEKFIYENHPDVFSDDSSMDHFQKFLPTVGGQLGTAGQGFYSKSNRGGSQAGG
180
SGSAGQYGSDQQHHLGSGGAGGTGGPAGQAGRGGAGTAGVGETSGDQAGGEGKHITV
240
FKTYISPWERAMGVDPQQKMEIGIDLLAYGAKAELPKYKSFNRTAMPYGGYEKASKRMTF
QMPKFDLGPLLSEPLVLYNQNLNRPFSFNRTPIPWLSSGEPVDYNVDIGIPLDGETEEL

FIG. 1C

mouse CAP-2

60
MPLSGTPAPNKKRKSSKLIIMELTGGGRESSGLNLGKKISVPRDVMLEELSLLTNRGSKMF
120
KLRQMRVEKFIYENHPDVFSDDSSMDHFQKFLPTVGGQLETAGQGFYSKGSSGGQAGSSG
180
SAGQYGSDRHHQQSGFGAGSGGPGGQAGGGGAPGTVGLGEPGSDQAGDGKHVTVFKT
240
YISPWDRAMGVDPQQKVELGIDLLAYGAKAELPKYKSFNRTAMPYGGYEKASKRMTFQMP
KFDLGPLLSEPLVLYNQNLNRPFSFNRTPIPWLSSGHEHVDYNVDVIGIPLDGETEEL

FIG. 1D

MCAP-1	M L S H S	M V	Q Q A S A I T K E I H	H D V D	M D	V	I
MCAP-2	M P L S G T P	P N	S S K L I M E L T G G	R E S S	L N	I	V
MCAP-1	H F S	H F S	R N G A R L	M	R	S D	Y T F
MCAP-2	L L T	L L T	S K M	L	R	V E	F I Y
MCAP-1	I	I					
MCAP-2	V	V					
MCAP-1	- - - - -	- - - - -	Y S R A	I N H N I A M Q N	R V D		N L
MCAP-2	D S S M D H F Q K F L P T V G G	L L T A G	G F S Y G K G S S	G Q A			S G
MCAP-1	E G S	- - - - -	P S T P P N T P D P R S P P N P E N I	A P O	Y S	P L	
MCAP-2	S A	Q Y G S D R H	S G P G A G S G G P G G Q A G G G	A P O	T V	L G	
MCAP-1	K E I P P E R E N T	- - - - -	T A P Y R	E Q	I	S	E L L E A
MCAP-2	E P G S G D Q A G G D G K H V T						
MCAP-1	P X	F X P E G	R D	R	P	M	V X
MCAP-2	I D	L A Y G A	P X	T	Y	R	M T
MCAP-1	D	E L L	T D P R F L A F A N P	G	R C	A	K G
MCAP-2	K	G P	L S E P L V L Y N Q N	N	P S	T	I P
MCAP-1	I T T E P T E D A T V P	S D D					
MCAP-2	Y N V D - V G I P L D G	T E E					

FIG. 1E

[illegible]

FIG. 2A

mouse CAP-1

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10      20      30      40      50      60      70      80      90      100
ATTCCGCMATGGGATCCAGGGACCATGCCGTTCCAGGTTCAAGGATAAAACCCATTGGGCCATAGTCCCGTCATATTCCACCTTCAGTGCCTTCCCA
TAAGCCGCTACCTAGCTCCCTGGTACGGCAAGGTCCAAGTTCTTATTTTGGGTAACCCGGTATCACGGCAGTATAAGGTGGAGTCAACGGAAGGAGGT

110     120     130     140     150     160     170     180     190     200
CAATTGGGATTACCCCTGCTCAAAAGCGCACGGCTCACAGCAAGGGAACAAAACTATGCTATCACATAGTCCCATGCTCAAGCAAGGAAACAGCAAG
GTTAACCTTAAGTGGGACGACTTTTCCGCTCCGACTGTCGTTCCCTTGTTTTTCATACGATAGTGATACACGGTACCACTTCGTTTCTTTCGTTTC

210     220     230     240     250     260     270     280     290     300
CATCAGCCATCAGCAAGGAATCCATGGACATGATGTTACCGCATGGACCTGGCCCAAAAGTTAGCATCCCCAGAGACATCATCATAGAAGAAATTGTC
GTAGTCCGTAGTGCCTTCTTTAGGTACCTGTACTACAACCTGCCGTACCTGGACCCCTTTTTCATCGTAGGGGTCTCTGTAGTACTATCTTCTTAACAG

310     320     330     340     350     360     370     380     390     400
CCATTTCTGTAATCGTGGGGCCAGGCTGTTTANGATCGGTCAAGAGAGATCTGACAAATACACCTTTGAAAATTTCCAGTATGAATCTAGAGCACAAATT
GGTAAAGTCATTAGCAACCCCGCTCCGACAAATTCACCGAGTTTCTTCTAGACTGTTTATGTGGAAACTTTTAAAGGTACACTTAGATCTCGTCTTTAA

410     420     430     440     450     460     470     480     490     500
AATCACAAATATCCCATCCAGAAATGGGAGAGTTGATGGAGCAACCTGCAAGGTGGCTCACAGCAAGGCCCTCAACTCCGCCCAACACCCCGGATCCAC
TTAGTCTTATAGCGGTACGCTTACCTCTCAACTACCTTCGTTGGACCTTCCACCGAGTGTGCTTCCGGGGAGTTGAGGCGCGTGTGGGGGTAGGTG

510     520     530     540     550     560     570     580     590     600
GAAGCCCCCAAAATCCAGAGAACATCGCACAGGATATTCTGGACCACTGAAGGAATTCCTCTGAAAGGTTTAAACAGCAGCGCGCTTCTTAAGTACTA
CTTGGGGGGTTTACGCTCTTGTAGCGTGGTCTATAGACCTGGTGACTTCTTAAAGGAGGACTTCCAAATTTGTCTGCCCGCAAGGATTATGAT

610     620     630     640     650     660     670     680     690     700
CCGGTCTCCATGGGAGCAGGCGATGGCCAGCGATCCCGAGCTCCTGGAGGCTTTGTAACCAAACTTTTCAAGCCTGAAGGAAAAGCAGAACTGCCGGAT
GGCCAGAGGTACCCCTCGTCCGTAACCGTCCGTAGGCTCGAGGACCTCCGAACATGGGTTTGAAGTTTGGGACTTCCCTTTTCTGCTTGACCCCTA

710     720     730     740     750     760     770     780     790     800
TACAGGAGCTTTAACAGGGTTGCCACTCCATTTCGAGGTTTGAAGGATCAAAATGGTCAAAATCAAGTTCCAGATTTTGAAGTACTGCTGCTCA
ATGTCTCGAAATTTGTCCCAAGGTGAGGTAAACCTCCAAACTTTTTCGTAGTTTACCAGTTTAAAGTTTCAAGGTCTAAACTTGATGACGAGCACT

810     820     830     840     850     860     870     880     890     900
CAGATCCAGGTTCTTGGGCTTTGCCAATCTCTTTGGGCGACAGCATGCTTTAACAGGGCGCAAGGGGTGGGTATCTGAGAAATATCCCGGTGCTGAT
GTCTAGGGTCCAAGAACCGGTAAGGAGAAAGCCCTCTGCTACGAAATTTGTCGGCGGTTTCCCAACCATAGACTCTTATAGGGGCGAGCACTA

910     920     930     940     950     960     970     980
CACACTGAGCCTACAGAACAGCCACTGTACCGGAATCAGATGACCTGTGAGAGGGAGCTGGGATCCACAGGAAGTTC
GTGTTGACTCGATGCTTCTGCGGTGACATGGCCTTAGTCTACTGCACTCTCCCTTGGACCCCTACGGTGTCTTCAAG

```

FIG. 2B

human CAP-2

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CGGTCACAGC AGCTCAGTCC TCCAAAGCTG CTGGACCCCA GGGAGAGCTG ACCACTGCCG GAGCAGCCCG CTGAATCCAC CTCCACAATG CCGCTCTCAG      100
GAACCCCGGC CCTAATAAG AAGAGGAAT CCAGCAAGCT GATCATGCA CTCACTGGAG GTGGACAGGA GAGCTCAGGC TTGAACCTGG GCAAAAAGAT      200
CAGTGTCCCA AGGGATGTGA TGTGGAGGA ACTGTGCTG CTTACCAACC GGGGCTCCA GATGTTCAA CTGGGGCAGA TGAGGGTGA GAAGTTTATT      300
TATGAGAACC ACCCTGATGT TTTCTCTGAC AGCTCAATGG ATCACTTCCA GAAGTTCCIT CCACACAGTG GGGCAGAGCT GGGCAGAGCT GGTCAAGGAT      400
TCTCATACAG CAAGAGCAAC GGCAGAGGCG GCAGCCAGGC AGGGGGCAGT GGCTCTGCCG GACAGTATGG CTCTGATCAG CAGCACCATC TGGGCTCTGG      500
GTCTGGAGCT GGGGGTACAG GTGCTCCCGC GGGCCAGGCT GGCAGAGGAG GAGCTGCTGG CACACAGGGG GTTGGTGAGA CAGGATCAGG AGACCAGGCA      600
GGGCGAGAGG GAAACATAT CACTGTGTC AAGACCTATA TTTCCCATG GGAGCGAGCC ATGGGGGTTG ACCCCAGCA AAAATGGAA CTGGGCATTG      700
ACCTGCTGCC CTATGGGGCC AAGCTGAAC TTCCCAATA TAAGTCTTC AACAGGACGG CAATGCCCTA TGGTGGATAT GAGAAGGCTT CCAAGCCAT      800
GACCTTCCAG ATGCCCAAGT TTGACCTGGG GCGCTTCTG AGTGAACCC TGCTCTCTA CAACCAAAAC CTCTCCAACA GGCCTTCTTT CAATCGAACC      900
CCTATTCCCT GCGTGAGCTC TGGGGAGCCT GTAGACTACA ACGTGGATAT TGGCATCCC TTGGATGGAG AAACAGAGGA GCTGTGAGGT GTTTCCTCCT      1000
CTGATTGCA TCATTCCCG TCTCTGGCTC CAATTGGAG A

```

FIG. 2C

mouse CAP-2

```

100  GCGGGGAGA GCGGACCACC AACTGAGCAG CTGGTCAGAT CCACCTCCAC CATGCCACGC TCAGGAACCC CGGCCCCCTAA CAAGAGGAGG AAGTCAAGCA
200  AACTGATTAT GGAGCTCACT GGAGGTGGCC GCGAGAGCTC AGGCGTGACC CTGGCCAAAG AGATCAGTGT CCCAAGGGAT GTGATGTTGG AGGAGCTGTC
300  CCTTCTTACC AACCGAGGCT CCAAGATGTT CAAGCTACGG CAGATGCGGG TGGAGAAATF TATCTATGAG AATCACCCCG ATGTTTTCTC TGACAGCTCA
400  ATGGATCACT TCAGAAATF TCTTCCCA CA GGGGAGGAC AGCTGGAGAC AGCTGGTCAG GGCCTCTCAT ATGCCAAGGG CAGCAGTGA GGCAGGCTG
500  GCAGCAGTGG CTCTGCTGGA CAGTATGGCT CTGACCGTCA TCAGCAGGGC TCTGGGTTTG GAGCTGGGGG TTCAGGTGGT CCTGGGGGCC AGGCTGGTGG
600  AGGAGGAGCT CTTGGCAGAG TAGGGCTTGG AGAGCCCGGA TCAGGTGACC AGGCAGGTGG AGATCGAAAA CATGTCAGTG TGTTCAGAC TTATATTTC
700  CCTGGGATC GGGCCATGGG GGTTCATCCT CAGCAAAAAG TGGAACTTGG CATTGAOCTA CTGGCATACG GTGCCAAGC TGAATCCCC AAATATANGT
800  CCTTCACAG GACAGCAATG CCCACGGTG GATATGAGAA GGCTCCAAA CGCATGACCT TCAGATGCC CAAGTTTGAC CTGGGGCCTC TGCTGAGTGA
900  ACCCCTGGTC CTCTACAACC AGAACCTCTC CAACAGGCTT TCTTCAATC GAACCCCTAT TCCTTGGTTG AGCTCTGGGG AGCATGTAGA CTACAACGTG
1000 GATGTTGGTA TCCCTTTGGA TGGAGAGACA GAGGAGCTGT GAAGTGCTC CTCTGTCTAT GTGCATCATT TCCCTTCTCT GGTTCCAATT TGAGAGTGA
1100 TGCTGGACAG GATGCCCCAA CTGTTAATCC AGTATCTTG TGGCAATGCA GGGTAAAGGG TGGGGTCCGT TGCCTTTCCA CCTTCAGT TCTGCTCCG
AAGCATCCCT CCTACCCAGC TCAGAGCTCC CATCTGCTG TACCATANG AATCTGCTCT TTTATGGAT TTCT

```

FIG. 2D

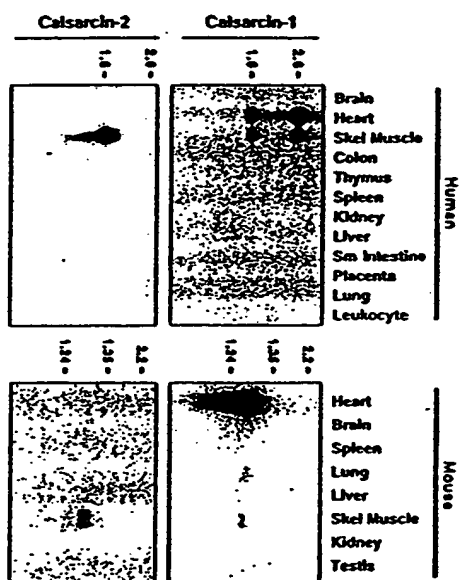


FIG. 3

FIG. 4C

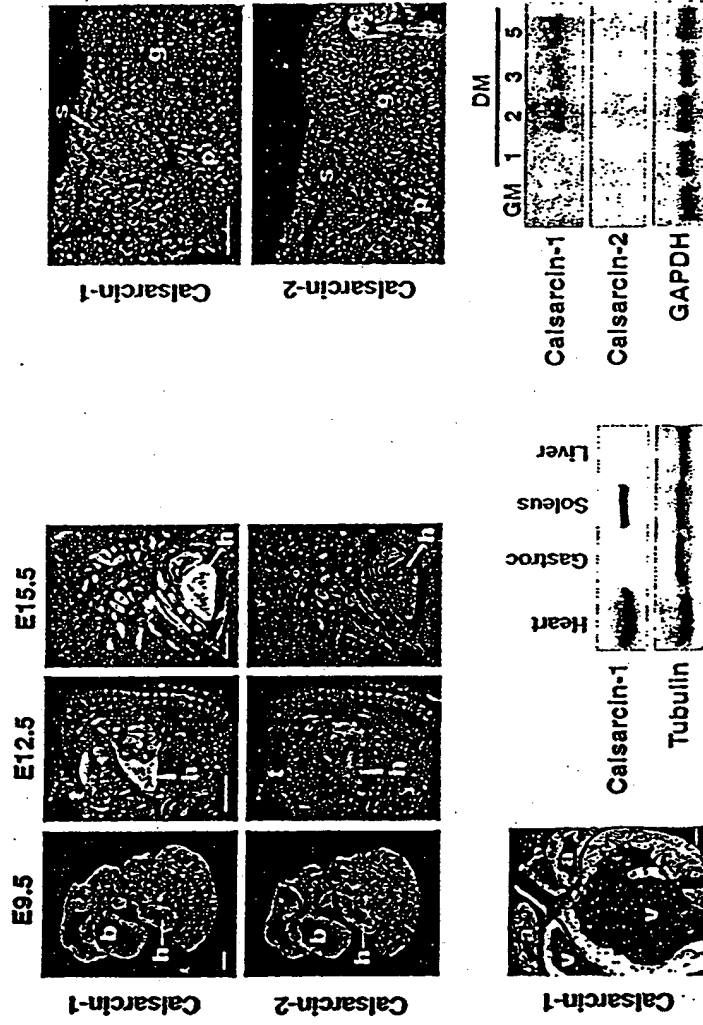


FIG. 4A

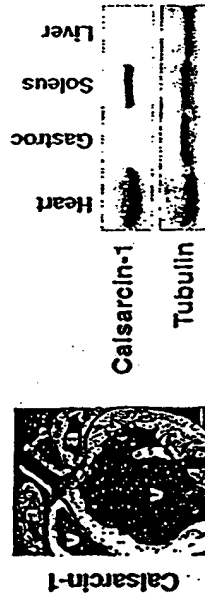


FIG. 4B

FIG. 4D

FIG. 4E

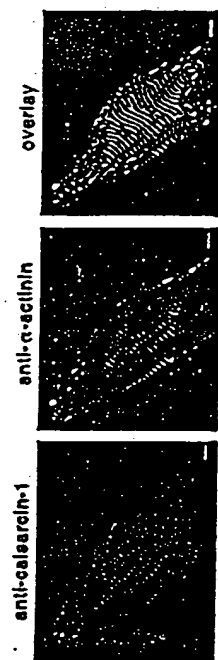


FIG. 5A



FIG. 5B

FIG. 6A

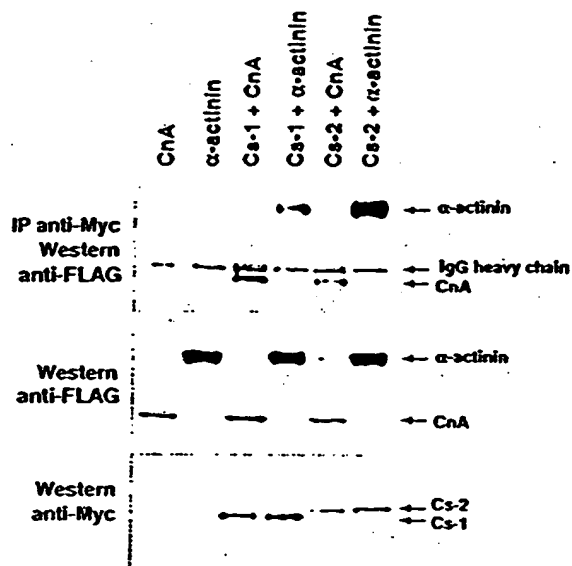


FIG. 6B

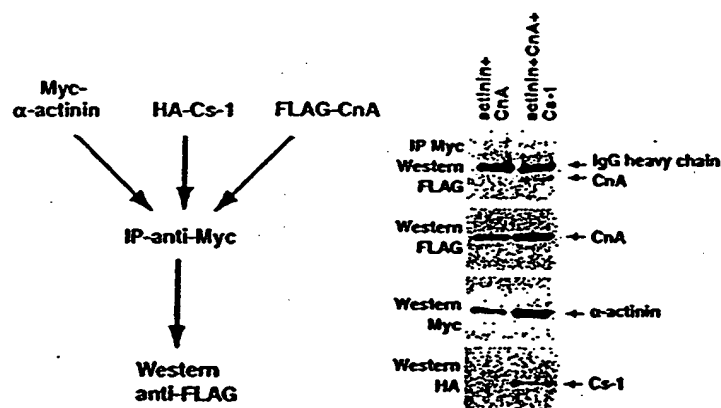
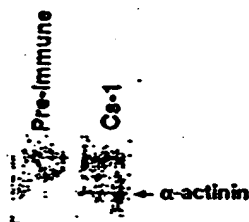


FIG. 6C



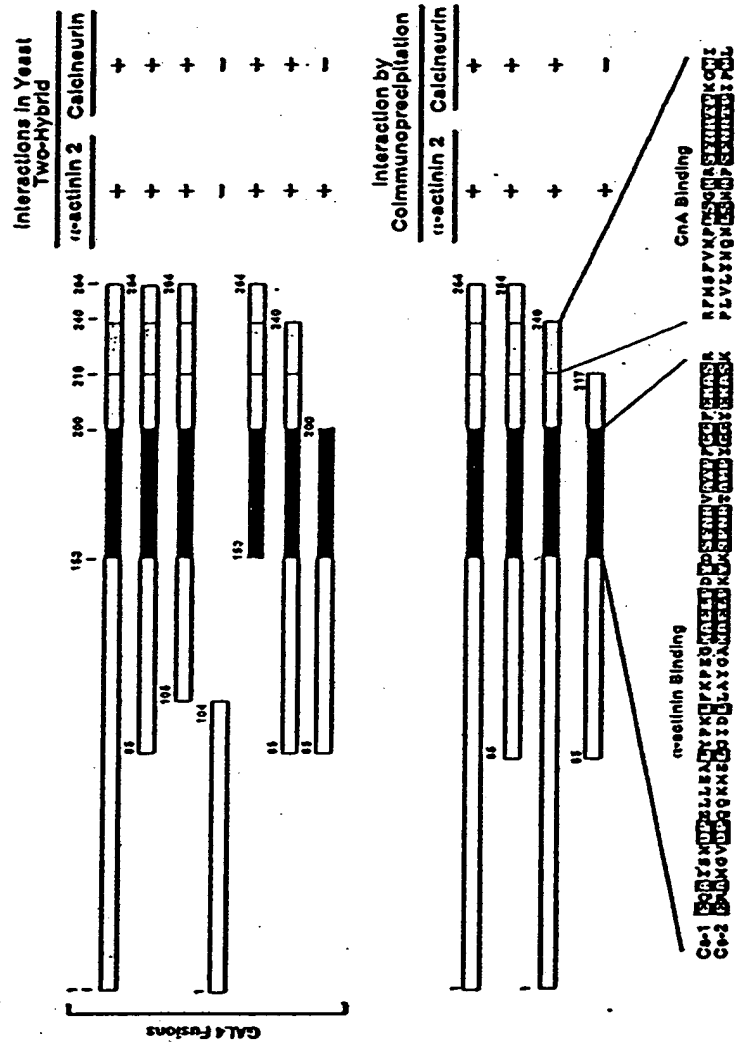


FIG. 7

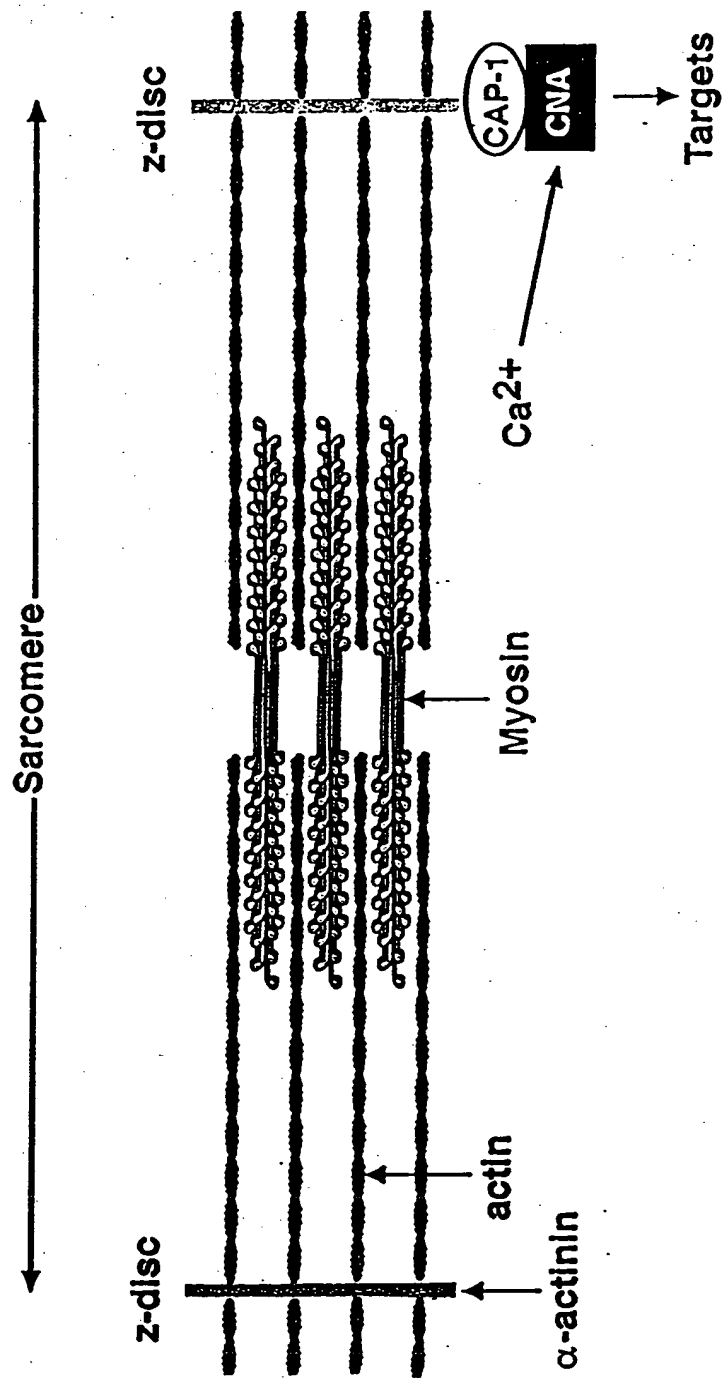


FIG. 8

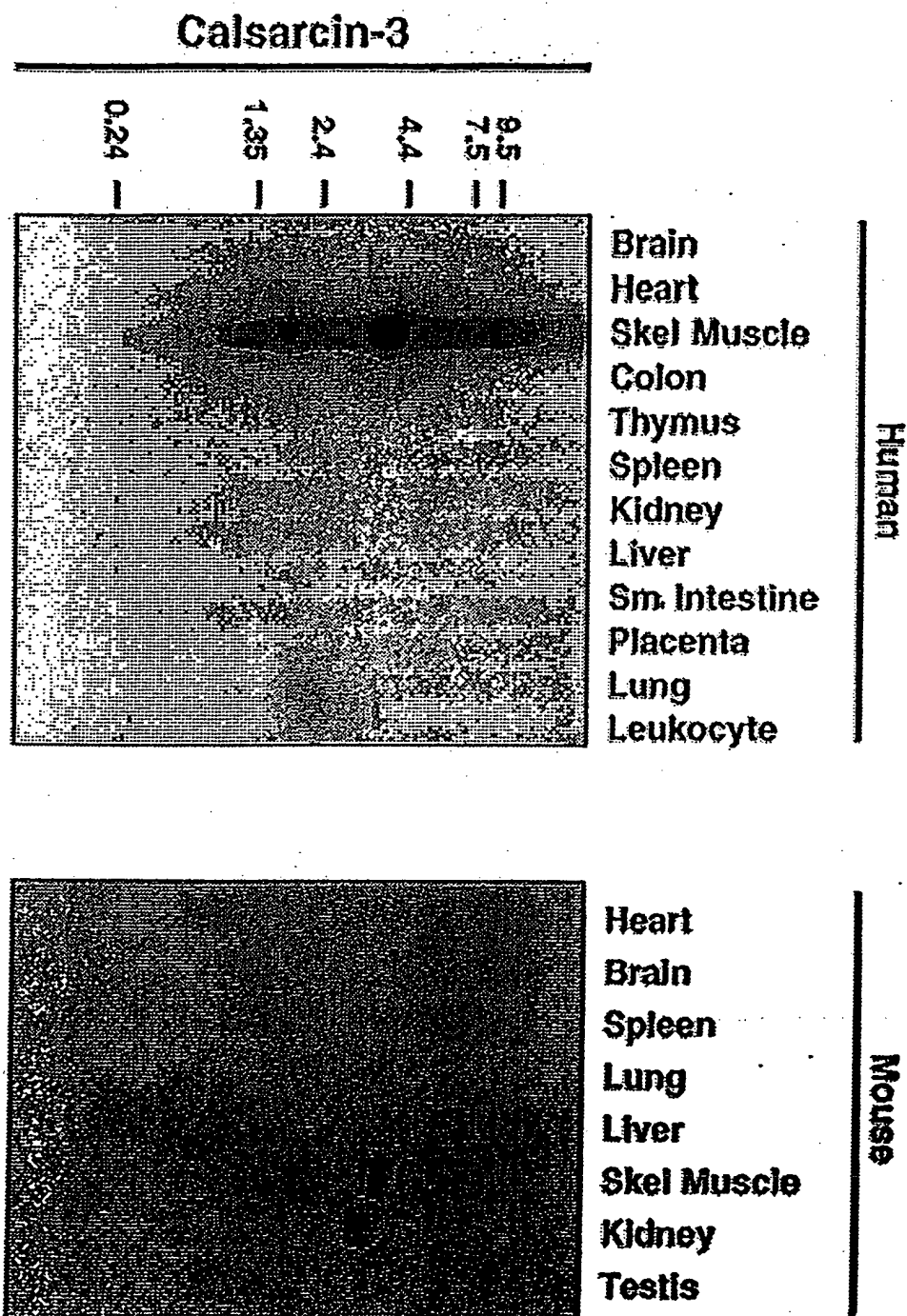


FIG. 9

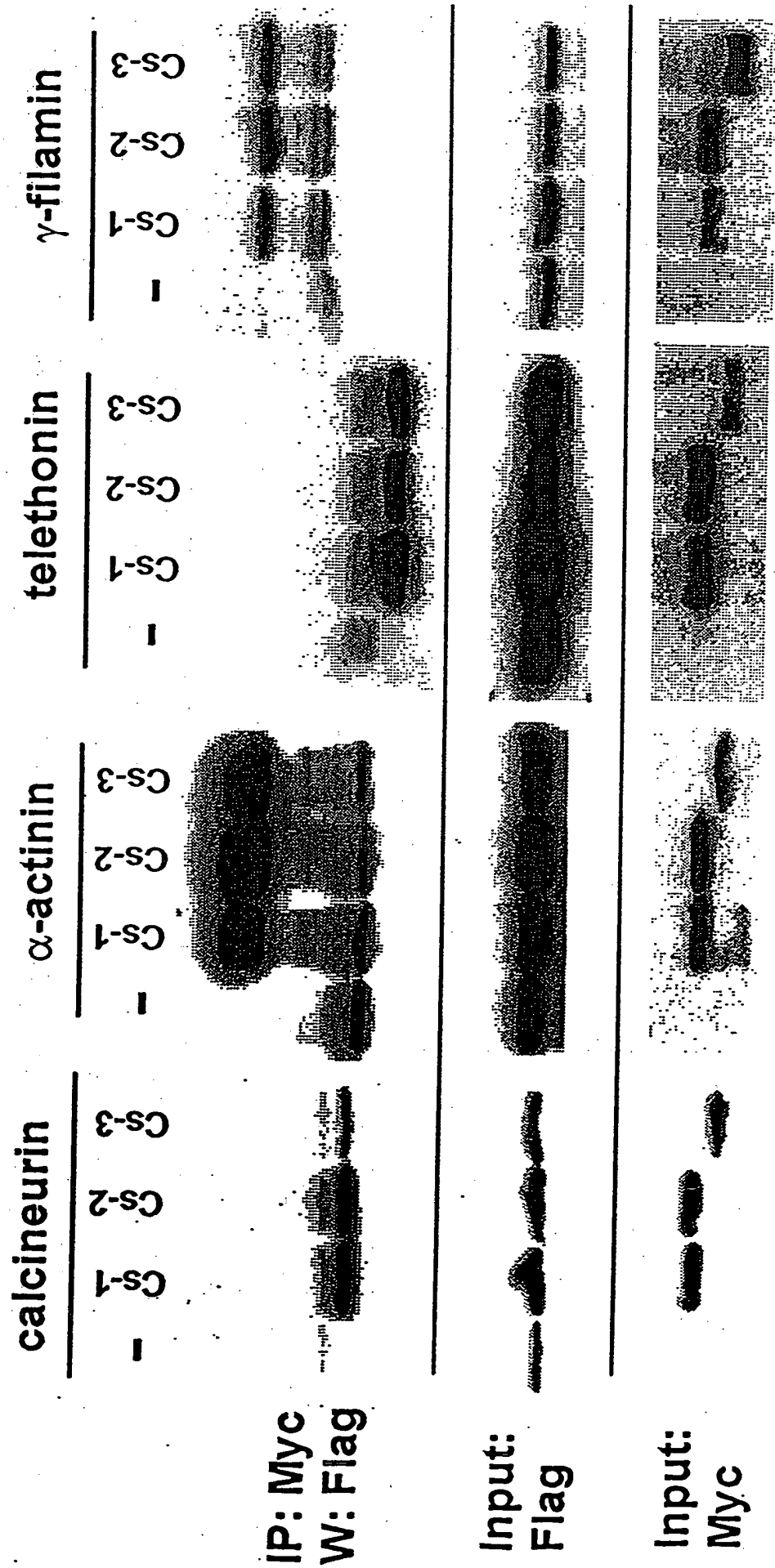


FIG. 10

calsarcin-3

actinin

merge

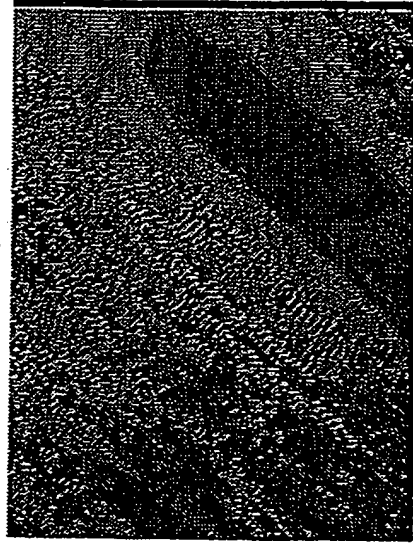
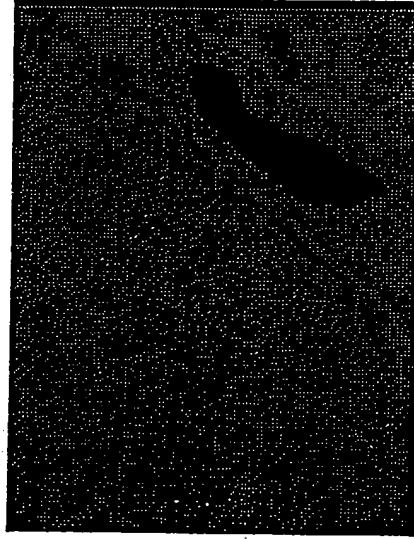
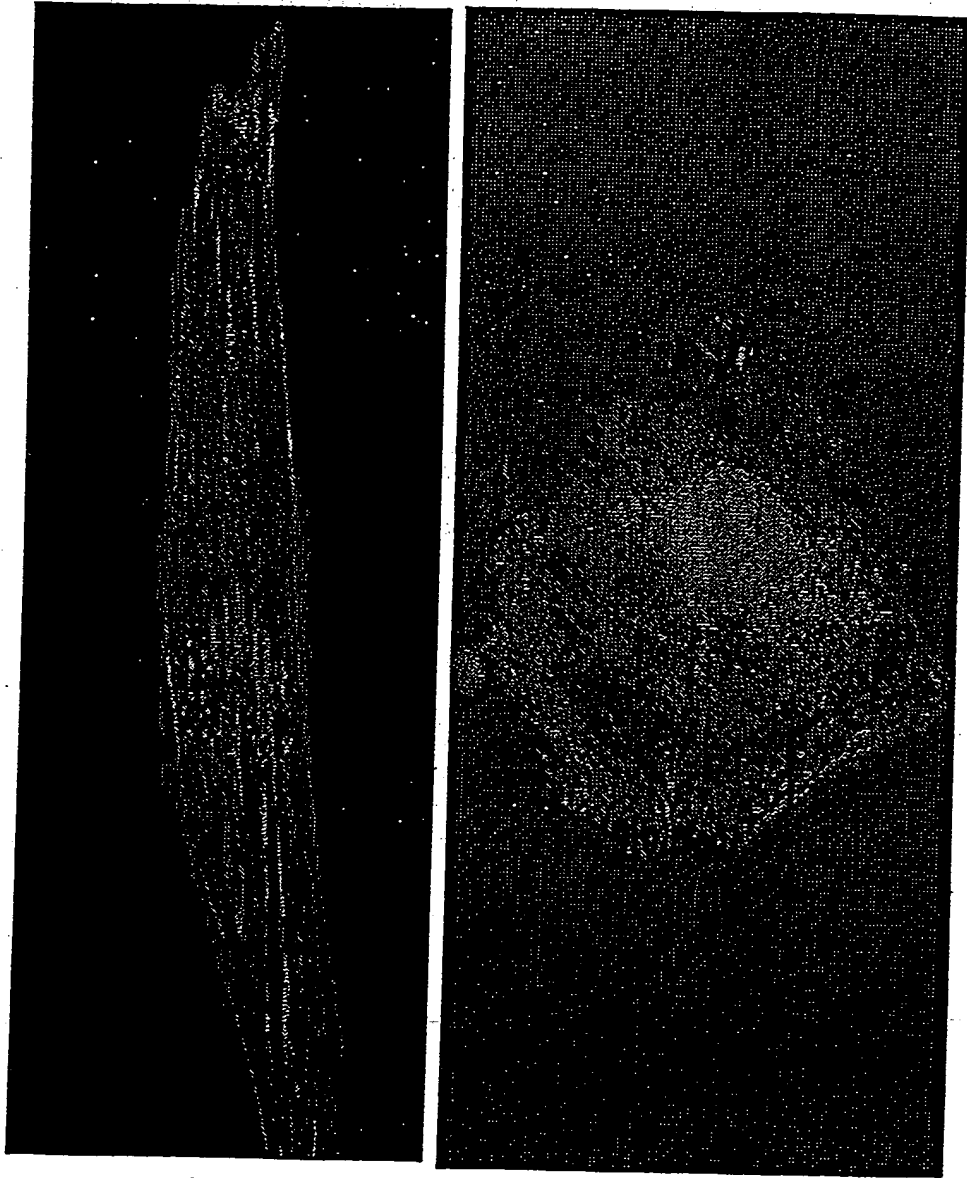


FIG. 11

FIG. 12



ClustalW Formatted Alignments

1	calarscin-3	1	N	L	S	H	T	N	K	K	Q	K	P	M	A	A	O	D	L	T	P	V	P	T	L	D	L	G	K	K	S	V	P	D	M	E	E	L	S	L	R	N	R	47									
1	calarscin-2	1	N	P	L	S	T	P	A	P	M	P	K	K	Q	K	P	M	A	A	O	D	L	T	P	V	P	T	L	D	L	G	K	K	S	V	P	D	M	E	E	L	S	L	R	N	R	55					
1	calarscin-1	1	N	L	S	H	T	N	K	K	Q	K	P	M	A	A	O	D	L	T	P	V	P	T	L	D	L	G	K	K	S	V	P	D	M	E	E	L	S	L	R	N	R	53									
48	calarscin-3	48	G	S	L	L	F	K	R	Q	R	R	V	K	F	T	F	E	L	A	A	S	Q	R	A	M	L	G	S	A	R	K	V	Q	S	G	T	V	A	N	A	G	P	E	Q	P	N	Y	102				
56	calarscin-2	56	G	S	L	L	F	K	R	Q	R	R	V	K	F	T	F	E	L	A	A	S	Q	R	A	M	L	G	S	A	R	K	V	Q	S	G	T	V	A	N	A	G	P	E	Q	P	N	Y	108				
54	calarscin-1	54	G	L	F	K	R	Q	R	R	S	D	K	T	F	E	N	H	P	D	V	F	S	D	S	M	D	F	F	Q	R	F	F	P	V	G	G	O	A	Q	O	F	S	Y	S	108							
																																																	94				
103	calarscin-3	103	S	E	L	I	F	P	A	P	G	A	S	L	O	G	P	E	G	H	P	A	A	P	A	G	C	V	P	S	P	S	A	P	G	Y	E	P	L	K	O	P	P	152									
109	calarscin-2	109	S	N	G	G	G	S	Q	Q	G	G	S	G	Q	Y	G	D	Q	H	H	L	G	S	O	G	A	G	T	G	G	P	A	O	A	O	K	O	A	A	G	158											
95	calarscin-1	95	S	N	L	E	G	G	S	Q	Q	A	P	L	P	P	N	T	P	D	P	P	N	P	D	N	I	A	P	G	Y	S	G	P	L	N	P	P	136														
153	calarscin-3	153	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	183				
159	calarscin-2	159	T	T	G	V	G	E	T	G	S	G	D	Q	A	G	E	K	H	I	V	F	K	T	Y	I	S	P	W	E	R	A	G	V	D	P	Q	K	M	E	L	G	I	D	L	L	A	Y	O	A	K	A	213
137	calarscin-1	137	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	E	K	177		
184	calarscin-3	184	H	T	P	S	P	N	D	Y	R	N	F	N	T	P	P	F	G	G	P	L	V	O	G	T	F	P	R	P	T	F	P	P	T	F	I	P	E	P	L	S	O	L	I	R	L	R	231				
214	calarscin-2	214	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	265		
178	calarscin-1	178	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	E	L	P	229		
232	calarscin-3	232	P	S	F	N	R	V	A	G	W	R	N	L	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	251			
266	calarscin-2	266	P	S	F	N	R	T	P	I	P	W	S	S	E	R	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	299				
230	calarscin-1	230	R	S	F	N	R	T	P	I	P	W	S	S	E	R	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	264					

FIG. 13